

I claim:



5

10

15

20

25

30

1. A vibration isolation member comprising:
  - (a) an inner member comprising an outer periphery having a first dimension;
  - (b) an outer member comprising a base and a shroud that extends away from the base, the shroud adapted to overlay the inner member, said shroud defining an inner periphery having a second dimension, the second dimension being less than the first dimension; and
  - (c) a resilient member constrained between the shroud and the inner member, whereby the vibration isolation member provides iso-elastic stiffness and an interference between the inner and outer members in the event of a failure of the resilient member.
2. The vibration isolation member of claim 1 wherein the inner member is comprised of a stem and a seat.
3. The vibration isolation member as claimed in claim 2 wherein the seat is frustoconical.
4. The vibration isolation member as claimed in claim 2 wherein the seat is comprised of a first surface, a second surface spaced from the first surface and a third surface that joins the first and second surfaces.
5. The vibration isolation member as claimed in claim 3 wherein the third surface is oriented at an angle relative to the first surface.
6. The vibration isolation member as claimed in claim 4 wherein the angle is about 55°.
7. The vibration isolation member as claimed in claim 1 wherein the outer member shroud comprises a first segment, a second segment and a

third segment, the second segment joining the first and second segments.

8. The vibration isolation member as claimed in claim 7 wherein the first segment is oriented substantially axially, the third segment is oriented substantially radially and the second segment is oriented at an angle relative to the first and third segments.

9. The vibration isolation member as claimed in claim 7 wherein inner member comprises a seat, the seat comprising a first surface, a second surface spaced from the first surface and a third surface that joins the first and second surfaces and wherein the third surface is oriented at an angle relative to the first surface, the third surface of the seat being substantially parallel to the second segment.

10. The vibration isolation member as claimed in claim 2, wherein the inner member further comprises an axially extending bore through the stem and seat.

11. The vibration isolation member as claimed in claim 1 wherein the resilient member is comprised of either silicone or synthetic rubber.

12. A combination comprising:

- (a) a support structure;
- (b) a suspended body located away from the support structure; and
- (c) a vibration isolation member joining the support structure and the suspended body to reduce the transmission of vibratory disturbances between the suspended body and support structure, the vibration isolation member comprising:
  - (i) an inner member comprising an outer periphery having a first dimension;

(ii) an outer member comprising a base and a shroud that extends away from the base, the shroud adapted to overlay the inner member, said shroud defining an inner periphery having a second dimension, the second dimension being less than the first dimension; and

(iii) a resilient member constrained between the shroud and the inner member, whereby the vibration isolation member provides iso-elastic stiffness and an interference between the inner and outer members in the event of a failure of the resilient member.

10

13. The combination as claimed in claim 12 wherein the inner member is unitary and is comprised of a frustoconical seat and a cylindrical stem.

15

14. The combination as claimed in claim 13 wherein the seat is comprised of a first surface, a second surface spaced from the first surface and a third surface that joins the first and second surfaces.

20

15. The combination as claimed in claim 14 wherein the third surface is oriented at an angle relative to the first surface.

16. The combination as claimed in claim 12 wherein the outer member shroud comprises a first segment, a second segment and a third segment, the second segment joining the first and third segments.

25

17. The combination as claimed in claim 12 wherein the outer member and support structure comprise a chamber, the inner member comprising a stem and a seat, the seat being located in the chamber.

30

18. The combination as claimed in claim 17 wherein the support structure and seat are separated by a distance.

19. The combination as claimed in claim 12 wherein the inner periphery is located radially inwardly from the outer periphery.

5 Sub 20. The vibration isolation member as claimed in claim 1 wherein the shroud is conical.

21. The vibration isolation member as claimed in claim 1 wherein the shroud is comprised of single wall segment.

10 22. The vibration isolation member as claimed in claim 1 wherein the inner periphery is located radially inwardly from the outer periphery.